Gulfco Site
Comments on Groundwater Data and Proposed Monitoring Wells, dated 1/19/2007

1. (Figure 1 & Figure 2): Data from the eight temporary piezometers, HMW-1, 2, and 3, and MW-1, 2, and 3 were excluded from potentiometric contouring. This data shall be plotted on the maps and the potentiometric surfaces re-contoured, or additional information provided to justify the rejection of groundwater elevation data in developing the potentiometric surface.

2. (Figure 1 through Figure 4): The location of MW-500 is not shown on the maps. The location of this sample shall be shown on the maps, and the analysis results included in Figure 3 and in Table 1.

3. (Proposed Zone A Wells, p. 2): There is no Zone-A monitoring well proposed for the area downgradient (west) from the MW-01 and PZ-04 sample locations. Both of these samples included a number of chemicals that exceeded their screening levels, and an additional monitoring well there is necessary to define the contamination extent and to determine direction of groundwater flow in that area. An additional monitoring well shall be installed in this area, which is west of MW-01 and adjacent to new Zone-B monitoring well MW-23B. The analyte list for this additional well shall be the same as for MW-20 and MW-21, as modified by the comment below.

4. (Proposed Zone-A Wells, p. 2): There is no Zone-A monitoring well proposed for the southern corner of the former impoundment area, where temporary piezometer PZ-04 was located. The groundwater sample from this piezometer contained some of the highest contaminant concentrations, and a permanent monitoring well at this location would allow verification of the results. An additional monitoring well shall be installed in this area, which is west of MW-01 and adjacent to new Zone-B monitoring well MW-23B. The analyte list for this additional well shall be the same as for MW-20 and MW-21, as modified by the next comment.

5. (Table 2): The groundwater analyte list for proposed wells MW-20 and MW-21, which are located downgradient from the former impoundments, does not include carbon tetrachloride or toluene. Both of these chemicals were detected above their screening levels in the sample from PZ-04, which is located adjacent to the former impoundments on the southern corner. The analyte list for proposed wells MW-20 and MW-21, and the two additional monitoring wells in previous comments, shall include carbon tetrachloride and toluene in addition the other analytes listed in Table 2.

6. There is no mention of soil sampling to be conducted during monitor well installation activities. Soil samples collected near the former impoundments could identify the presence or absence of NAPL. The plan shall describe the method(s) to evaluate the presence of NAPL, and sampling shall be done where the presence of NAPL is indicated in accordance with Section 3.6.2, page 13, and Section 5.5.1.1,

page 24, of the Field Sampling Plan, and include the collection of soil samples from areas where the presence of NAPL is indicated. Any soil samples shall be analyzed for VOCs, SVOCs, and pesticides.

7. (Proposed Zone-B Wells, p.3): The screen length for the Zone-B wells is not provided. The plan shall include a maximum screen length of 10-feet. The rational for setting depth for the screen shall also be provided. For example, if the sand is more than 10-feet thick, then set the screen so that the most permeable, based on visual assessment, sand intervals are included, and any identified NAPL zones are included; but if the best sand intervals and any NAPL zones cannot all be covered within the 10-foot screen, then ensure that the NAPL zones are included.

8. (Proposed Zone-B Wells p.3): The Zone-B wells are to be isolated from Zone-A with an isolation casing string installed and grouted into the confining clay below Zone-A. "Casing hammer" and "sonic drilling" techniques are listed as alternatives to be employed. These alternative methods may not provide the same quality of isolation between the two zones, which is important to prevent any contamination from migrating downward at the well. The alternative methods shall be removed from the plan, or a discussion provided regarding their ability to provide good isolation between the two zones.

9. (Proposed Zone-B Wells, p.3): The screening values to be used for each groundwater zone are based on whether it is a potable water zone. The plan shall include a provision for measuring the salinity of the Zone-B water samples and analyzing one groundwater sample for total dissolved solids.

10. (Proposed Zone-B Wells, p. 3): The last sentence on page 3 states that a boring will never be advanced through a low-permeability zone where elevated contaminants are present in the overlying zone. This last sentence shall be deleted. It may be necessary to install monitoring wells into deeper zones to determine the extent of contamination, and appropriate measures (i.e., grouting isolation casing strings in clay layers) shall be taken to prevent the spread of contamination at the well.

11. In the Remedial Investigation and Feasibility Study Work Plan, it was suggested that natural attenuation may be an important process in remediating the site. It would be beneficial to collect additional water quality information to evaluate these processes. The plan shall include provisions to measure dissolved oxygen and oxidation-reduction potential during the water sampling activities.